

VOSH PROGRAM DIRECTIVE: 12-227B**ISSUED: 01 December 2016****Subject****Personal Protective Equipment, Parts 1910, 1915, 1917, and 1926****Purpose**

CHANGE I re-transmits to field personnel the updated standards for Personal Protective Equipment (PPE) and provides guidance for the selection and use of PPE. **CHANGE II** addresses OSHA's intent for the new requirements of §1910.132 to apply to §§1910.134 and 1910.137. **CHANGE III** specifically clarifies and restates in §§1910.133, 1910.135 and 1910.136 the employer's obligation to assure that employees wear appropriate types of protective equipment, including any personal protective equipment described in §§1910.133, 1910.135 and 1910.136. **CHANGE IV** incorporates by reference three recent editions of the applicable national consensus standards in the existing eye and face protection standards.

This Program Directive is an internal guideline, not a statutory or regulatory rule, and is intended to provide instructions to VOSH personnel regarding internal operation of the Virginia Occupational Safety and Health Program and is solely for the benefit of the program. This document is not subject to the Virginia Register Act or the Administrative Process Act; it does not have general application and is not being enforced as having the force of law.

Scope

This Directive applies VOSH-wide.

Reference**CHANGE I:** 59 FR 16334 (06 April 1994)**CHANGE II:** 59 FR 33910 (01 July 1994)**CHANGE III:** 61 FR 19547 (02 May 1996) and 61 FR 21228 (09 May 1996)**CHANGE IV:** 81 FR 16085 (25 March 2016)**Cancellation**

VOSH PD 12-227A (15 August 1996)

Effective Date

01 December 2016

Expiration Date

Not Applicable

Action

Directors and Managers shall ensure that field personnel review and understand the standard in this Directive.

C. Ray Davenport
Commissioner

Distribution:

Commissioner of Labor and Industry
Assistant Commissioner
VOSH Directors and Managers
Legal Support & IMIS Staffs

Director of Cooperative Programs
VOSH Compliance & Cooperative Programs Staffs
OSHA Region III & OSHA Norfolk Area Offices

I. Background and Purpose

CHANGE I: Federal OSHA performed a comprehensive review of the Personal Protective Equipment (PPE) standards in the late 1980's in developing a proposed revision of Subpart I of the General Industry standards. This review revealed that many of the existing PPE standards were outdated; gaps existed in coverage of the PPE standards which set very restrictive design criteria which might limit the use of new technology; manufacturers might be discouraged from improving their equipment and from providing improved protection to workers unless the PPE standards were revised to be more performance-oriented; and, based on the review of injury data and technical reports, significant improvements in PPE design and acceptance might be needed. As a result, a revised standard for PPE was promulgated that reflected improved means of hazard prevention.

CHANGE II: After adoption of the revised standards for PPE, federal OSHA received many comments concerning the applicability of the general requirements contained in §1910.132. The comments indicated that, although OSHA stated that §§1910.134 and 1910.137 were not being addressed by the rulemaking published on April 6, 1994 (59 FR 16334), much of the regulated community was still unclear whether OSHA intended for the new requirements of §1910.132(d), "Hazard Assessment and Equipment Selection" and §1910.132(f), "Training", to apply to §§1910.134, "Respiratory Protection", and 1910.137, "Electrical Protective Equipment". Therefore, §1910.132 was amended to more clearly indicate OSHA's intent.

CHANGE III: The introductory phrase "the employer shall ensure" was removed from various requirements for employees to wear different types of protective equipment from §§1910.133 - Eye and Face Protection; 1910.135 - Foot Protection; and 1910.136 - Head Protection. The revised language in CHANGE II, above, caused difficulty for OSHA's compliance staff with regard to the employer's obligation to have employees wear PPE. That obligation, while specifically stated under §1910.132 for all PPE, is not explicitly spelled out in the specific provisions of §§1910.133, 1910.135 and 1910.136, for eye, head, face, and foot protection. The preamble to this amendment clarified that these deletions were not intended to change the substantive requirements between the proposed and final rules. The employer was still obligated to require the employee to wear eye, face, head, and foot protection regardless of whether the words "the employer shall ensure" were included in those standards.

CHANGE IV: Before it published a proposed change to these standards, OSHA consulted the Advisory Committee on Construction Safety and Health (ACCSH) on May 8, 2014, as required by 29 CFR 1911.10. OSHA presented the Committee with two options and the Committee selected the option which required replacing all eye and face protection provisions in the construction standard with those of the general industry and maritime standards, except those that were unique to the construction industry.

OSHA's standards now state that the PPE employers provide must meet specified updated consensus standards. For operations covered by OSHA's general industry, shipyard employment, longshoring, and marine terminals standards, the PPE now must comply with one of the following standards: ANSI Z 87.1-2003, ANSI Z87.1-1989 (revised 1998), and ANSI Z87.1-1989. Alternatively, the employer may show that the devices used are at least as effective as one of these consensus standards: §§1910.133(b), 1915.153(b), 1917.91(a)(1), or 1918.101(a)(1). The construction standard at §1926.102(a)(2) requires that eye and face protection meet the requirements of ANSI A87.1-1968.

OSHA's last update of its eye and face protection standards in 2009 did not address the eye and face protection requirements in the construction standard which had been revised in 1993. During the 2009 rulemaking OSHA received several comments suggesting that the construction requirements be updated as well. After the new ANSI/ISEA Z87.1-2010 standard was published, OSHA decided to again update its eye and face protection requirements.

II. Summary

CHANGE I: These amendments to Subpart I, Personal Protective Equipment (PPE), included standards containing general requirements for all PPE under §1910.132 and other standards that set design, selection, and use requirements for specific types of PPE, eye, face, head, foot and hand. These revisions provided guidance for the selection and use of PPE as well as clearer requirements, when appropriate, that were performance-oriented.

Among other things, §1910.133 requires employees to use eye or face PPE when exposed to eye or face hazards. PPE must include side eye protection, which may be detachable, when flying object hazards are present. Employees who wear prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in their design, or shall be protected by eye protection that can be worn over prescription lenses without disturbing the proper position of the prescription or protective lenses.

Section 1910.135 requires employees to wear protective helmets when working in areas where there is a potential for injury to the head from falling objects and §1910.136 requires employers to ensure that employees wear protective footwear when working in areas where there is a danger of foot injuries due to falling and rolling objects, or objects piercing the soles.

Also, §1910.138 was added to address hazards to the hands. It requires employers to select appropriate hand protection, and employees to use it. It identifies some of the types of hazards for which hand protection must be worn by employees, such as hazards from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

Non-mandatory Appendices A and B were also added to provide additional guidance to employers and employees with regard to PPE for eye, face, head, foot and hand hazards.

CHANGE II: As published, the prior change contained typographical errors as well as language that did not clearly enough express federal OSHA's intent. Therefore, OSHA made housekeeping and clarifying amendments.

Federal OSHA's intent in promulgating §1910.132 of the final rule was that paragraph (d), "Hazard assessment and equipment selection," and paragraph (f), "Training," would apply only to §§1910.133, 1910.135, 1910.136, and 1910.138. OSHA amended the final rule by adding a new paragraph (g) to §1910.132 to explain the applicability of the requirements for hazard assessments and training.

In §1910.133, Eye and Face Protection, on page 16361 (59 FR16334, April 6, 1994), the table, "Filter Lenses for Protection Against Radiant Energy," contains a typographical error. The column heading "Electric Size 1/32 in." should read, "Electrode Size 1/32 in." In §1910.136, "Foot Protection", on page 16362 of the final rule, paragraph (a) reads in part:

General requirements. Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling and rolling objects.... [emphasis added].

Federal OSHA's intent in its previous amendment to §1910.136 was to require the use of protective footwear when either falling or rolling hazards was present. Therefore, the word "or" is replacing the word "and" to clarify OSHA's intent. In the prior change creating the new §1910.138, "Hand Protection", federal OSHA failed to explain that it was removing and replacing the existing §1910.138, "Effective dates," with the new "Hand Protection" section, and it has rectified that omission.

CHANGE III: The existing language in §§ 1910.133, Eye and Face Protection; 1910.135, Foot Protection; and 1910.136, Head Protection, contains requirements that employees wear specific PPE when they are exposed to workplace hazards. However, no specific text in any of these sections directly addressed the employer and the employer's responsibilities for worker compliance. This technical amendment corrected this by adding the language, "The employer shall ensure that" the employees wear the equipment.

In the correction to §1910.136(a), the words, "the employer shall ensure that each affected employee uses", replace the language "the employer shall ensure that each employee used."

CHANGE IV: This amendment updates eye and face protection requirements in the general industry, shipyard employment, marine terminals, longshoring, and construction standards. The changes involve the incorporation by reference of the latest ANSI/International Safety Equipment Association (ISEA) Z87.1-2010 standard on Occupational and Educational Eye and Face Protection Devices and the removal of the oldest ANSI (Z87.1-1989) version of the same standard.

The newer ANSI/ISEA Z87.1-2010 provides requirements for the selection, testing, use, and maintenance of protectors intended to minimize or prevent eye and face injuries, including impact, non-ionizing radiation and chemical exposures, in occupational and education environments. ANSI Z87.1-2003 and ANSI Z87.1-1989 (R-1998) are prior versions of this standard which are also incorporated by reference as alternative means of compliance with OSHA's eye and face protection requirements.

Also, OSHA amended are §§1926.6 and 1926.102, which has incorporate by reference the old ANSI Z87.1-1968 to include the same three newer consensus standards incorporated into the general industry and maritime standards, ANSI/ISEA Z87.1-2010, ANSI Z87.1-2003, and ANSI Z87.1-1989 (R-1998). Additionally, OSHA replaced all eye and face protection provisions in its construction standard to make the construction standard more consistent with the general and maritime industry standards, except those provisions that were unique to the construction industry standard.

Attachments: **CHANGES I- III:** None. Standard may be found in existing published VOSH Standards

CHANGE IV: https://www.osha.gov/FedReg_osha_pdf/FED20160325A.pdf

PERSONAL PROTECTIVE EQUIPMENT, GENERAL INDUSTRY,

§§ 1910.132 - 1910.140

As adopted by the

SAFETY AND HEALTH CODES BOARD

Date April 25, 1994



VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective date July 5, 1994

Personal Protective Equipment, General Industry,
§§ 1910.132 - 1910.140

VR 425-02-151

When the regulations, as set forth in the standards for Personal Protective Equipment, General Industry, 1910.132 - 1910.140, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following terms shall be considered to read as below:

Federal Terms

VOSH Equivalent

29 CFR

VOSH Standard

Assistant Secretary

Commissioner of Labor and Industry

Agency

Department

July 5, 1994

July 5, 1994

**PERSONAL PROTECTIVE EQUIPMENT, GENERAL INDUSTRY,
§§ 1910.132 - 1910.140**

As adopted by the
SAFETY AND HEALTH CODES BOARD

Date July 19, 1994



VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM
VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective date October 1, 1994

Personal Protective Equipment, General Industry,
§§ 1910.132 - 1910.140

VR 425-02-151

When the regulations, as set forth in the Corrections to the standards for Personal Protective Equipment, General Industry, §§1910.132, 1910.133, 1910.136, and 1910.138, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following terms shall be considered to read as below:

Federal Terms

29 CFR

Assistant Secretary

Agency

July 5, 1994

VOSH Equivalent

VOSH Standard

Commissioner of Labor and Industry

Department

October 1, 1994

PERSONAL PROTECTIVE EQUIPMENT, GENERAL INDUSTRY,

§§ 1910.133, 1910.135 and 1910.136;

TECHNICAL AMENDMENT AND CORRECTION

As adopted by the

SAFETY AND HEALTH CODES BOARD

Date June 17, 1996



VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective date: September 1, 1996

Personal Protective Equipment, General Industry,
§§ 1910.133, 1910.135 and 1910.136

16 VAC 25-90-1910.133, 16 VAC 25-90-1910.135 and 16 VAC 25-90-1910.136

When the regulations, as set forth in the Corrections to the standards for Personal Protective Equipment, General Industry, §§ 1910.133, 1910.135 and 1910.136, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following terms shall be considered to read as below:

Federal Terms

29 CFR

Assistant Secretary

Agency

June 3, 1996

VOSH Equivalent

VOSH Standard

Commissioner of Labor and Industry

Department

September 1, 1996

**Updating OSHA Standards Based on National Consensus Standards for Eye and Face Protection;
Parts 1910, 1915, 1917, 1918, and 1926;
Final Rule**

As Adopted by the
Safety and Health Codes Board

Date: September 13, 2016



VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: December 1, 2016

16VAC25-90-1910.6, Incorporation by reference;
16VAC25-90-1910.133, Eye and face protection;
16VAC25-100-1915.5, Incorporation by reference;
16VAC25-100-1915.153, Eye and face protection;
16VAC25-120-1917.3, Incorporation by reference;
16VAC25-120-1917.91, Eye and face protection;
16VAC25-130-1918.3, Incorporation by reference;
16VAC25-130-1918.101, Eye and face protection
16VAC25-175-1926.6, Incorporation by reference; and
16VAC25-175-1926.102, Eye and face protection

When the guidelines, as set forth in this Program Directive, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms if, and where they are used, shall be considered to read as below:

<u>Federal Terms</u>	<u>VOSH Equivalent</u>
OSHA	VOSH
Federal Agency	State Agency
Agency	Department
Regional Administrator	Assistant Commissioner
Area Director	Regional Director VOSH Program Director
Regional Solicitor	Attorney General or VOSH Division of Legal Support (DLS)
Office of Statistics	VOSH Research and Analysis
29 CFR	VOSH Standard
April 25, 2016	December 1, 2016

PART 1910—[AMENDED]**Subpart A—[Amended]**

■ 2. Amend § 1910.6 by revising paragraphs (e)(69) through (71) to read as follows:

§ 1910.6 Incorporation by reference.

(e) * * *

(69) ANSI/ISEA Z87.1–2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1910.133(b). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642–4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413–5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699–9277; Web site: <http://techstreet.com>.

(70) ANSI Z87.1–2003, Occupational and Educational Eye and Face Personal Protection Devices Approved June 19, 2003; IBR approved for §§ 1910.133(b). Copies available for purchase from the:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642–4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413–5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699–9277; Web site: <http://techstreet.com>.

(71) ANSI Z87.1–1989 (R–1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1910.133(b). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642–4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413–5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699–9277; Web site: <http://techstreet.com>.

Subpart I—[Amended]

■ 4. Amend § 1910.133 by revising paragraph (b)(1) to read as follows:

§ 1910.133 Eye and face protection.

(b) *Criteria for protective eye and face protection.* (1) Protective eye and face protection devices must comply with any of the following consensus standards:

(i) ANSI/ISEA Z87.1–2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1910.6;

(ii) ANSI Z87.1–2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1910.6; or

(iii) ANSI Z87.1–1989 (R–1998), Practice for Occupational and

Educational Eye and Face Protection, incorporated by reference in § 1910.6;
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PART 1915—[AMENDED]

■ 6. Amend § 1915.5 by revising paragraphs (d)(1)(vi) through (viii) to read as follows:

§ 1915.5 Incorporation by reference.

(d)(1) * * *

(vi) ANSI/ISEA Z87.1–2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1915.153(b). Copies are available for purchase from:

(A) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642–4980; Web site: <http://webstore.ansi.org/>;

(B) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413–5184; Web site: <http://global.ihs.com>; or

(C) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699–9277; Web site: <http://techstreet.com>.

(vii) ANSI Z87.1–2003, Occupational and Educational Personal Eye and Face Protection Devices, approved June 19, 2003; IBR approved for § 1910.153(b). Copies available for purchase from the:

(A) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642–4980; Web site: <http://webstore.ansi.org/>;

(B) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413–5184; Web site: <http://global.ihs.com>; or

(C) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699–9277; Web site: <http://techstreet.com>.

(viii) ANSI Z87.1–1989 (R–1998), Practice for Occupational and Educational Eye and Face Protection,

Reaffirmation approved January 4, 1999; IBR approved for § 1910.153(b). Copies are available for purchase from:

(A) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(B) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(C) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

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Subpart I—[Amended]

■ 7. Amend § 1915.153 by revising paragraph (b)(1) to read as follows:

§ 1915.153 Eye and face protection.

* * * * *

(b) *Criteria for protective eye and face devices.* (1) Protective eye and face protection devices must comply with any of the following consensus standards:

(i) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1915.5;

(ii) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1915.5; or

(iii) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1915.5;

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PART 1917—[AMENDED]

■ 9. Amend § 1917.3 by revising paragraphs (b)(6) through (8) to read as follows:

§ 1917.3 Incorporation by reference.

* * * * *

(b) * * *
(6) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal

Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1917.91(a). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(7) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1917.91(a). Copies available for purchase from the:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(8) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1917.91(a). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

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Subpart E—[Amended]

■ 10. Amend § 1917.91 by revising paragraph (a)(1)(i) to read as follows:

§ 1917.91 Eye and face protection.

(a)(1)(i) The employer shall ensure that each affected employee uses protective eye and face protection devices that comply with any of the following consensus standards:

(A) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal

Eye and Face Protection Devices, incorporated by reference in § 1917.3;

(B) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1917.3;

or

(C) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1917.3;

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PART 1918—[AMENDED]

■ 12. Amend § 1918.3 by revising paragraphs (b)(6) through (8) to read as follows:

§ 1918.3 Incorporation by reference.

* * * * *

(b) * * *

(6) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1918.101(a). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(7) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, Approved June 19, 2003; IBR approved for § 1918.101(a). Copies available for purchase from the:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(8) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1918.101(a). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

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Subpart J—[Amended]

■ 13. Amend § 1918.101 by revising paragraph (a)(1)(i) to read as follows:

§ 1918.101 Eye and face protection.

(a) * * *

(1)(i) Employers must ensure that each employee uses appropriate eye and/or face protection when the employee is exposed to an eye or face hazards, and that protective eye and face devices comply with any of the following consensus standards:

(A) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1918.3;

(B) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1918.3; or

(C) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1918.3

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PART 1926—[AMENDED]

Subpart A—General [Amended]

■ 15. Amend § 1926.6 as follows:

- a. Revise paragraph (h)(31);
- b. Redesignate paragraphs (h)(32) thru (34) as (h)(34) thru (36);
- c. Add new paragraphs (h)(32) and (h)(33).

The revisions and additions read as follows:

§ 1926.6 Incorporation by reference.

* * * * *

(h) * * *

(31) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 3, 2010; IBR approved for § 1926.102(b). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(32) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, Approved June 19, 2003; IBR approved for § 1926.102(b). Copies available for purchase from the:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(33) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1926.102(b). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

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Subpart E—[Amended]

■ 17. Amend § 1926.102 as follows:

■ a. Revise paragraphs (a)(1) thru (4).

■ b. Remove paragraphs (a)(5), (a)(7), (a)(8), and Tables E-1, E-2, and E-3.

■ c. Redesignate paragraph (a)(6) as (a)(5).

■ d. Revise paragraph (b).

■ e. Add paragraph (c).

The additions and revisions read as follows:

§ 1926.102 Eye and face protection.

(a) *General requirements.* (1) The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

(2) The employer shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

(3) The employer shall ensure that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards wears eye protection that incorporates the prescription in its design, or wears eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

(4) Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.

* * * * *

(b) *Criteria for protective eye and face protection.* (1) Protective eye and face protection devices must comply with any of the following consensus standards:

(i) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1926.6;

(ii) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1926.6; or

(iii) ANSI Z87.1-1989 (R-1998), Practice for Occupational and

Educational Eye and Face Protection, incorporated by reference in § 1926.6;

(2) Protective eye and face protection devices that the employer demonstrates are at least as effective as protective eye and face protection devices that are

constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

(c) *Protection against radiant energy—*
(1) *Selection of shade numbers for*

welding filter. Table E–1 shall be used as a guide for the selection of the proper shade numbers of filter lenses or plates used in welding. Shades more dense than those listed may be used to suit the individual's needs.

TABLE E–1—FILTER LENS SHADE NUMBERS FOR PROTECTION AGAINST RADIANT ENERGY

Welding operation	Shade number
Shielded metal-arc welding 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	10
Gas-shielded arc welding (nonferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	12
Shielded metal-arc welding 3/16-, 7/32-, 1/4-inch diameter electrodes	12
5/16-, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10–14
Carbon-arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Gas welding (light), up to 1/8-inch	4 or 5
Gas welding (medium), 1/8-inch to 1/2-inch	5 or 6
Gas welding (heavy), over 1/2-inch	6 or 8

(2) *Laser protection.* (i) Employees whose occupation or assignment requires exposure to laser beams shall be furnished suitable laser safety goggles which will protect for the specific wavelength of the laser and be of optical density (O.D.) adequate for the energy involved. Table E–2 lists the maximum power or energy density for which adequate protection is afforded by glasses of optical densities from 5 through 8. Output levels falling between lines in this table shall require the higher optical density.

TABLE E–2—SELECTING LASER SAFETY GLASS

Intensity, CW maximum power density (watts/cm ²)	Attenuation	
	Optical density (O.D.)	Attenuation factor
10 ^{–2}	5	10 ⁵
10 ^{–1}	6	10 ⁶
1.0	7	10 ⁷
10.0	8	10 ⁸

(ii) All protective goggles shall bear a label identifying the following data:

(A) The laser wavelengths for which use is intended;

(B) The optical density of those wavelengths;

(C) The visible light transmission.

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